

CLAIMS

1. A method of crimping an electrical contact having a closed-section barrel, which is initially convex in shape, onto a cable with multiple conducting strands in order to produce a crimped contact, the barrel of which is crimped by deforming the section thereof from an initial generally convex shape to a final crimped shape in which it is compression-necked onto the strands (15) of the cable in such a way that at least one section of the crimp barrel (3) has, in its thickness, at least two adjacent indentations (19), which extend along the outer periphery of said section and which are directed inward,

said method comprising successive steps, which consist of:

- inserting the end of the cable (11) to be crimped into the barrel (3) of the contact; and

- compression-necking the barrel (3) onto the cable (11) by a die stamping operation so as to impart to the barrel (3) a intermediate necked form that is generally convex in cross section,

and being characterized in that it comprises, in addition, a punching operation, by means of which the indentations (19) are formed in the barrel (3) , said punching operation being performed after the die stamping operation.

2. The method according to claim 1, further characterized in that the intermediate necked shape is generally polygonal, particularly hexagonal.

3. The method according to claim 1 or 2, further characterized in that the die stamping operation is carried out by means of a die (103) in two parts (103A, 103B), which is squeezed onto the barrel (3) so as to close the die (103), and the punching operation is carried out while the die (103) is kept closed, the two parts of the die being kept pressed against each other.

4. The method according to claim 3, further characterized in that the punching operation is carried out by means of a single punch (113A, 113B) for each pair of adjacent indentations (19).

5. The use of a method according to any one of claims 1 to 4 to make a contact in which said two indentations (19) are adjacent in such a way as to define a double indentation in a W shape.

6. The use according to claim 5 for making a contact in which, in addition, said crimped barrel section (3) has a symmetry in relation to at least one first central transverse axis (Y).

7. The use according to claim 6, further characterized in that said section of crimped barrel (3) has a symmetry in relation to a second central transverse axis (Z), which is perpendicular to the first axis.

8. The use according to claim 6 or 7, further characterized in that said section of crimped barrel (3) has two other indentations (19), which are symmetrical to the preceding ones in relation to said first central transverse axis (Y).

9. The use according to claim 8, further characterized in that said section of crimped barrel (3) has exclusively four indentations (19).

10. The use according to any one of claims 5 to 9, further characterized in that the crimped barrel (3) has, in a second section that is axially displaced in relation to the first section, indentations that are analogous to those formed in said first section.

11. The use according to any one of claims 5 to 10, further characterized in that the section of the crimped barrel (3) has a generally polygonal outer shape.

12. The use according to claim 11, further characterized in that each pair of adjacent indentations (19) is formed on the same edge (17) of the polygonal shape.

13. The use according to claim 11 or 12, further characterized in that the section of the crimped barrel (3) has a generally hexagonal outer shape.

14. The use according to any one of the claims 5 to 13, further characterized in that the indentations (19) are provided for imparting to the conducting strands (15), in the interior of the barrel (3), a homogeneous deformation, independently of their individual position in the interior of the barrel.

15. A crimping tool for implementing a method in accordance with any one of claims 1 to 4, comprising:

- a die (103) in two parts (103A, 103B), which define, in the interior,

a stamp (105) corresponding to the intermediate necked shape to be imparted to the barrel (3),

- a means (123) of relative movement of the two parts of the die (103),
- at least one punch (113A, 113B) for making the indentations (19) in the barrel (3), and
- a means (133) of movement said punch,

characterized in that the means (133) of movement of the punch are linked to those (123) of the die parts in such a way that, during a crimping operation, the punch (113A, 113B) is moved from a retracted position, in which it is disengaged from the stamp (105) of the die (103), to an active position, in which it projects into the interior of the stamp (105) after the die (103) is closed.

16. The tool according to claim 15, further characterized in that the die (103) defines, in the interior, a stamp (105), which is generally polygonal, particularly hexagonal.

17. The tool according to claim 15 or 16, further characterized in that it comprises at least one punch (113A, 113B) with at least two teeth, which are provided for jointly making two indentations (19).

18. The tool according to claim 17, further characterized in that it comprises two punches (113A, 113B), which are symmetrical in relation to a crimping plane (P) of the die (103), and the associated means of movement (133) are appropriate for displacing them in a symmetric manner in relation to this plane (P).

19. The tool according to any one of claims 15 to 18, further characterized in that the punch(es) is (are) dependent on the means of relative movement of the two die parts such that the movement of the punch(es) from its (their) retracted position is possible only after the die has been closed.

20. The tool according to any one of claims 15 to 19, further characterized in that the means (123) of movement of the two parts of the die (103) and the means (133) of movement of the punches (113A, 113B) comprise a joint drive motor (151) and transmission units (161, 162) with respective cams (171, 172),

by means of which the parts of the die (103), on the one hand, and the punches (113A, 113B), on the other hand, are linked to said drive motor (151).

21. The tool according to any one of claims 15 to 19, further characterized in that the means (123) of movement of the two parts of the die (103) and the means (133) of movement of the punch (113A, 113B) comprise distinct drive motors, the means of movement (123) of the die parts comprising a means of control of their relative position and the means of movement (133) of the punch comprising a means of controlling the associated motor, subject to the said means of control.